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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/660,940	09/12/2003	Franco Ambri	M1025/7010	7032

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EXAMINER

SAYALA, CHHAYA D

ART UNIT PAPER NUMBER

1761

DATE MAILED: 09/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/660,940

Applicant(s)

AMBRI, FRANCO

Examiner

C. SAYALA

Art Unit

1761

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
- ☒ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date ____.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- ☐ Notice of Informal Patent Application
- ☐ Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Backlund (US Patent 4372872) in view of Zakiewicz (US Patent 6627680) and further in view of Meunier, deceased et al. (US Patent 4867779) or Macchioni et al. (US Patent 6488735) and Sawyer, Jr. (US Patent 4052694).

Backlund teaches combining molten sulfur at 260⁰F with clay and a surfactant to promote wetting of the sulfur and to increase formation of very fine particles. (Claims 2 and 6, col. 2, lines 30-44), the surfactant being in an amount 0.05 to 5 % by weight. The patentee states that a number of surfactants are useful in the practice of the invention, although at col. 4, line 39, he states that the surfactants are "primarily nonionic". The sulfur is an amount 10 to about 70% by weight (claim 8). The clay is used in an amount 25% slurry (col. 5, lines 45-50). Note that at col. 3, lines 55-68, the patent teaches the addition of fertilizers and nutrients, and specifically states that the solution/suspension of the invention, can also contain added trace nutrients (col. 4, lines 1-4). The patent does not teach ionic surfactants or the glassy matrix carrier for the trace nutrients.

The Zakiewicz patent teaches melting sulfur and combining it with a nucleating agent such as silica derived materials or clay or combinations thereof and also combining the sulfur with coalescing agents such as fertilizers, like urea, phosphates, humic acid, etc. (col. 2, lines 19-42, col. 6, lines 55-60). The patent teaches mixing the sulfur with the nucleating agents which are at the desired size for mixing with the sulfur.

While Zakiewicz teaches that fertilizers as well as silicates can be added to molten sulfur, Meunier, deceased et al. teach fertilizers having favorable nutrient release rates, that are silicates, specifically glass powder, that contain nutritive elements such as Fe, Mn, Zn, etc. See col. 1. Alternatively, Macchioni et al. teach a fertilizer with a glass matrix (silicates) that carries Zn, Co, Cu, Mn, etc. and also in the form of a fine powder mixed with a dispersant. See col. 4, lines 1-10. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use such silicates or glass powders that carry such trace elements that the secondary references teach, i.e. a powdered glass matrix that carries Zn, Cu, Co, Mn, etc., in the invention of the Zakiewicz and Backlund combination, for the benefits shown, which is the favorable release rate of such glassy matrices.

Sawyer, Jr teaches the use of clay as a suspending agent to which is added wetting and dispersing agents such as sulfonates. They facilitate the suspension of sulfur powder in it. See col. 2, lines 45-49 and examples 1-3. The patent teaches that the use of sulfonates as dispersants and clay resulted in stable homogeneous suspensions with good flow properties over an extended period of time. For these

reasons, to use sulfonates instead of non-ionic surfactants in the Backlund invention would have been *prima facie* obvious.

2. Claims 1-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 90/03350 in view of Meunier, deceased et al. (US Patent 4867779) or Macchioni et al. (US Patent 6488735).

A sulfur based fertilizer/soil conditioner is disclosed by the WO patent that contains sulfur combined with clay, such as bentonite, at least about 0.5%wt of a surfactant, such as lignosulfonate (page 4, line 25). The preferred embodiment teaches 93% S, 5% clay and 2% wt lignosulfonate (page 4, last line and page 5, line 1). The patent teaches mixing the components and extruding this. It does not teach the glassy matrix and trace elements. At page 5, lines 8-10, however, the patent states that "Other fertilizers in the form of powders can also be added to the mixture", "particularly compounds containing macro- and/or meso- and/or micro-elements."

Meunier, deceased et al. teach fertilizers having favorable nutrient release rates, that are silicates, specifically glass powder, that contain nutritive elements such as Fe, Mn, Zn, etc. See col. 1. Alternatively, Macchioni et al. teach a fertilizer with a glass matrix (silicates) that carries Zn, Co, Cu, Mn, etc. and also in the form of a fine powder mixed with a dispersant. See col. 4, lines 1-10.

Therefore, to incorporate the fertilizers of these secondary references would have been *prima facie* obvious since the primary patent itself recognizes its usefulness.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to C. SAYALA whose telephone number is 571-272-1405.

The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



C. SAYALA
Primary Examiner
Group 1700.